

Docket No. 100200768-1

**Amendments to the Claims:**

There are no claim amendments in this response.

**Status of claims:**

Claims 1-18, 20-36 are pending for examination.

Claims N/A are added by the present amendment.

Claims N/A are canceled herein.

Claims 1, 7, 20 are in independent form.

1. (Previously Presented) A fluid ejection device comprising:
  - a first heater element;
  - a second heater element vertically spaced a first distance from the first heater element;
  - a first drive transistor associated with the first heater element;
  - a second drive transistor associated with the second heater element, the second drive transistor vertically spaced a second distance from the first drive transistor, the second distance being different than the first distance; and
  - a power bus electrically connected to contacts of the first drive transistor, and being a protective layer covering the contacts of the first drive transistor.
2. (Original) The fluid ejection device of Claim 1, wherein the first distance is greater than the second distance.
3. (Original) The fluid ejection device of Claim 2, further comprising a primitive group of drive transistors, wherein the primitive group of drive transistors comprises the first and second transistors.
4. (Original) The fluid ejection device of Claim 1, wherein the first distance is less than the second distance.

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5. (Original) The fluid ejection device of Claim 4, further comprising a first primitive group of drive transistors and an adjacent second primitive group of drive transistors, wherein the first primitive group comprises the first drive transistor and the second primitive group comprises the second drive transistor.

6. (Original) The fluid ejection device of Claim 1, wherein the first distance is a heater element centerline-to-centerline spacing, and the second distance is a transistor center-to-centerline spacing.

7. (Previously Presented) A fluid ejection device comprising:  
a first primitive group comprising a plurality of drive transistors and a corresponding plurality of associated firing heater elements; and  
a second primitive group comprising a plurality of drive transistors and a corresponding plurality of associated firing heater elements; and  
wherein a first spacing between the plurality of drive transistors in the first primitive group is different from a second spacing between the plurality of drive transistors in the second primitive group.

8. (Previously Presented) The fluid ejection device of Claim 7, wherein the plurality of drive transistors are spaced more closely with respect to each other than the plurality of associated firing heater elements are spaced with respect to each other.

9. (Previously Presented) The fluid ejection device of Claim 8, wherein the plurality of drive transistors from the first and second primitive groups comprise contacts, the fluid ejection device further comprising:  
a layer of metal disposed over each of the contacts of the first and second primitive groups.

10. (Previously Presented) The fluid ejection device of Claim 9, wherein the layer of metal comprises a power bus connected to each of the plurality of drive transistors.

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11. (Previously Presented) The fluid ejection device of Claim 9, wherein the layer of metal is disposed over an entire surface of each of the contacts of the first and second primitive groups.

12. (Previously Presented) The fluid ejection device of Claim 7, wherein the plurality of drive transistors from the first and second primitive groups are arranged in a column of drive transistors and the plurality of associated firing heater elements are arranged in a column of firing heater elements alongside the column of drive transistors.

13. (Previously Presented) The fluid ejection device of Claim 12, wherein in the first primitive group, the plurality of drive transistors are spaced more closely with respect to each other than the plurality of associated firing heater elements are spaced with respect to each other.

14. (Previously Presented) The fluid ejection device of Claim 13, wherein the plurality of drive transistors comprise contacts and further comprising:

a layer of metal disposed over each of the contacts of the first primitive group.

15. (Previously Presented) The fluid ejection device of Claim 14, wherein the layer of metal comprises a power bus connected to each of the plurality of drive transistors of the first primitive group.

16. (Previously Presented) The fluid ejection device of Claim 14, wherein the layer of metal is disposed over an entire surface of each of the contacts of the first primitive group.

17. (Previously Presented) The fluid ejection device of Claim 7, wherein the second primitive group being adjacent the first primitive group, wherein the plurality of drive transistors of the second primitive group are spaced more closely with respect to each other than the plurality of firing heater elements of the second primitive group are spaced with respect to each other.

18. (Previously Presented) The fluid ejection device of Claim 7, wherein the first primitive group comprises an adjacent pair of drive transistors spaced a first distance apart from each other; and

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the first primitive group is separated from the second primitive group a second distance, the second distance being greater than the first distance.

19. (Canceled)

20. (Original) A fluid ejection device comprising:

a vertical column of firing heater elements and a vertical column of associated drive transistors; wherein

a first firing heater element of the vertical column of firing heater elements is vertically separated centerline-to-centerline by a first distance from an associated first drive transistor; and

an adjacent second firing heater element of the vertical column of firing heater elements is vertically separated centerline-to-centerline by a second distance from an associated second drive transistor,

wherein the first distance and second distance are different

21. (Original) The fluid ejection device of Claim 20 further comprising:

a primitive group comprising a plurality of firing heater elements of the vertical column of firing heater elements and a plurality of associated drive transistors of the vertical column of drive transistors;

wherein the primitive group comprises the first and second firing heater elements and the associated first and second drive transistors.

22. (Original) The fluid ejection device of Claim 21, wherein the drive transistors of the primitive group are spaced more closely center line-to-centerline along the vertical column of drive transistors than the firing heater elements of the primitive group are spaced from centerline-to-centerline along the vertical column of firing heater elements.

23. (Original) The fluid ejection device of Claim 21, wherein the plurality of firing heater elements of the primitive group are uniformly spaced from each other by a distance V1 and the plurality of drive transistors are uniformly spaced from each other by a distance V2, the distance V2 being less than V1.

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24. (Original) The fluid ejection device of Claim 23, wherein the distance V1 provides a fluid ejection device resolution of 1200 dots per inch.

25. (Original) The fluid ejection device of Claim 20 further comprising:

a primitive group comprising the vertical column of firing heater elements and the vertical column of drive transistors;

a power buss associated with the primitive group and electrically connected to provide a common power source for all of the plurality of drive transistors;

wherein the primitive group comprises the first and second firing heater elements and the associated first and second drive transistors.

26. (Original) The fluid ejection device of Claim 25, wherein the drive transistors of the primitive group are spaced more closely center line-to-centerline along the vertical column of drive transistors than the firing heater elements of the primitive group are spaced centerline-to-centerline along the vertical column of firing heater elements.

27. (Original) The fluid ejection device of Claim 25, wherein the plurality of firing heater elements of the primitive group are uniformly spaced a distance V1 and the plurality of drive transistors are uniformly spaced a distance V2, the distance V2 being less than V1.

28. (Original) The fluid ejection device of Claim 25, wherein the power buss has a perimeter defining an area, the plurality of drive transistors each have contacts and the contacts of the plurality of drive transistors are all enclosed within the perimeter.

29. (Original) The fluid ejection device of Claim 28, wherein the drive transistors of the primitive group are spaced more closely centerline-to-centerline along the vertical column of drive transistors than the firing heater elements of the primitive group are spaced centerline-to-centerline along the vertical column of firing heater elements.

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30. (Original) The fluid ejection device of Claim 28, wherein the plurality of firing heater elements of the primitive group are uniformly spaced a distance V1 and the plurality of drive transistors are uniformly spaced a distance V2, the distance V2 being less than V1.

31. (Original) The fluid ejection device of Claim 20 comprising:

a first primitive group comprising a first plurality of firing resistors of the column of firing resistors and a first plurality of associated drive transistors of the column of drive transistors;

an adjacent second primitive group comprising a second plurality of firing heater elements of the column of firing heater elements and a second plurality of drive transistors of the column of drive transistors;

first and second electrical power busses, each power buss associated with the drive transistors of the first or second primitive group respectively and electrically connected to the first or second plurality of drive transistors of the respective first or second primitive group respectively and electrically isolated from the other power buss.

32. (Original) The fluid ejection device of Claim 31, wherein the first plurality of drive transistors of the first primitive group are spaced more closely from each other center line-to-centerline along the vertical column of drive transistors than the first plurality of firing heater elements of the first primitive group are spaced centerline-to-centerline along the vertical column of firing heater elements; and

the second plurality of drive transistors of the second primitive group are spaced more closely from each other center line-to-centerline along the vertical column of drive transistors than the second plurality of firing heater elements of the second primitive group are spaced centerline-to-centerline along the vertical column of firing heater elements.

33. (Original) The fluid ejection device of Claim 31, wherein the first plurality of firing heater elements of the first primitive group are uniformly spaced a distance V1 and the first plurality of drive transistors of the first primitive group are uniformly spaced a distance V2, the distance V2 being less than V1.

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34. (Original) The fluid ejection device of Claim 31, wherein:

a lowermost drive transistor of the first primitive group is vertically spaced centerline-to-centerline a distance V3 from an uppermost drive transistor of the adjacent second primitive group; and

the drive transistors of one of the first or second primitive groups are vertically spaced more closely than the distance V3.

35. (Original) The fluid ejection device of Claim 34, wherein the first plurality of drive transistors of the first primitive group are spaced more closely center line-to-centerline along the vertical column of drive transistors than the first plurality of firing heater elements of the first primitive group are spaced centerline-to-centerline along the vertical column of firing heater elements; and

the second plurality of drive transistors of the second primitive group are spaced more closely center line-to-centerline along the vertical column of drive transistors than the second plurality of firing heater elements of the second primitive group are spaced centerline-to-centerline along the vertical column of firing heater elements.

36. (Original) The fluid ejection device of Claim 34, wherein the first plurality of firing heater elements of the first primitive group are uniformly spaced a distance V1 apart from each other and the first plurality of drive transistors of the first primitive group are uniformly spaced a distance V2 apart from each other, the distance V2 being less than V1 and the distance V1 being less than the distance V3.

37. – 44. (Canceled).